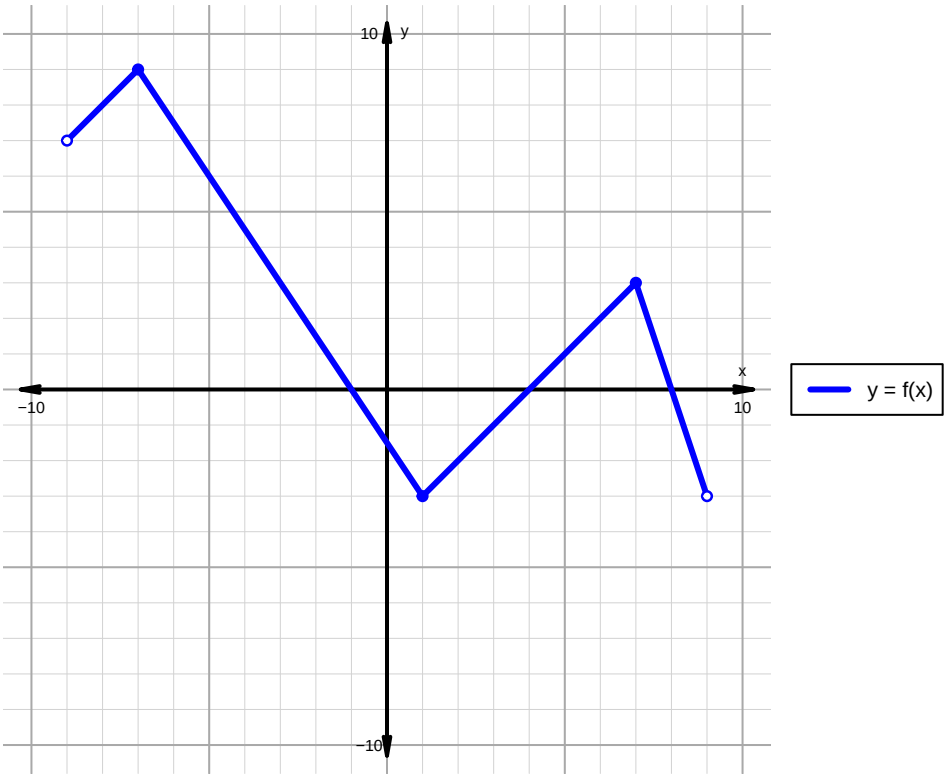
Name: Date:

Intervals, Transformations, and Slope Solution (version 81)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-9,-1)\cup(4,8)$
Negative	$(-1,4)\cup(8,9)$
Increasing	$(-9,-7)\cup(1,7)$
Decreasing	$(-7,1)\cup(7,9)$
Domain	$(-9,9)$
Range	$(-3,9)$

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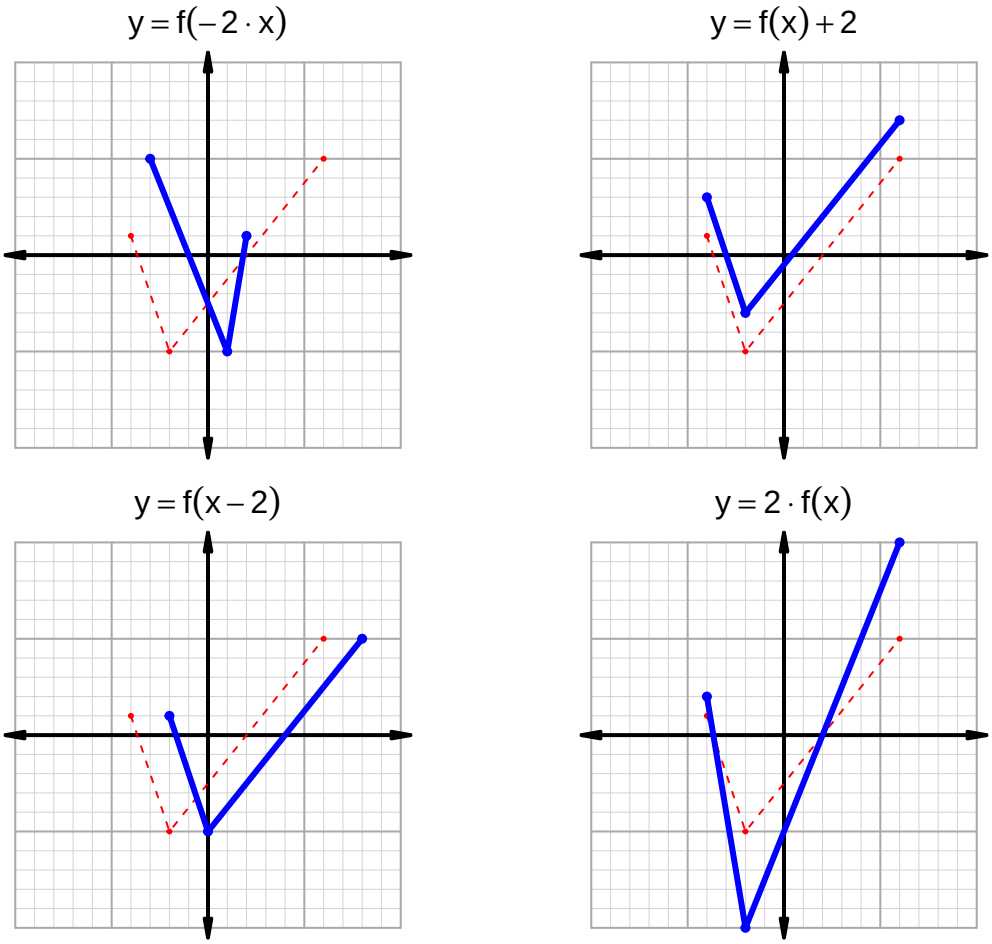
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 47$ and $x_2 = 62$. Express your answer as a reduced fraction.

x	$g(x)$
47	78
51	47
62	51
78	62

$\frac{g(62)-g(47)}{62-47} = \frac{51-78}{62-47} = \frac{-27}{15}$

The greatest common factor of -27 and 15 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-9}{5}$$